

## WHAT IS CLAIMED IS:

1. An injector for injecting fluid from a syringe mounted thereon, the injector comprising:
  - a housing;
  - a drive member at least partially disposed within the housing and operable to engage a plunger of the syringe; and
  - a syringe retaining mechanism associated with the housing, the syringe retaining mechanism adapted to releasably engage the syringe regardless of the orientation of the syringe with respect to the injector.
2. The injector of claim 1 wherein the syringe retaining mechanism comprises one or more capture members adapted to releasably engage corresponding members of the syringe.
3. The injector of claim 2, further comprising an actuator member adapted to engage the corresponding members of the syringe to urge them out of engagement with the one or more capture members to release the syringe from the injector.
4. The injector of claim 2 wherein the one or more capture members are resilient or movable members.
5. The injector of claim 4 wherein the one or more capture members are manipulated to urge them out of engagement with the corresponding members of the syringe to release the syringe from the injector.
6. The injector of claim 4, further comprising an actuator member associated with the one or more capture members, the actuator member adapted to be rotated by the syringe to urge the one or more capture members out of engagement with the corresponding members of the syringe to release the syringe from the injector.
7. The injector of claim 2 wherein the one or more capture members are spring-loaded members.

8. The injector of claim 7 wherein movement of the syringe against the one or more capture members to overcome the spring force urges the one or more capture members out of engagement with the corresponding members of the syringe to release the syringe from the injector.

9. The injector of claim 7 wherein manipulation of the one or more capture members to overcome the spring force urges the one or more capture members out of engagement with the corresponding members of the syringe to release the syringe from the injector.

10. The injector of claim 1 wherein the syringe retaining mechanism is adapted to releasably engage the syringe in an axial direction.

11. The injector of claim 1 wherein the syringe retaining mechanism is adapted to releasably engage the syringe in a vertical direction.

12. The injector of claim 1, further comprising a sensor adapted to read syringe information provided by an encoding device on a syringe.

13. An injector for injecting fluid from a syringe mounted thereon, the injector comprising:

a housing; and

a retaining mechanism associated with the housing for releasably engaging the syringe, the retaining mechanism being movable upon rotation of the syringe between a relaxed state, where the syringe is engaged by the retaining mechanism, and a tensioned state, where the syringe is released from the retaining mechanism.

14. The injector of claim 13 wherein the retaining mechanism comprises a substantially elliptical, flexible ring.

15. The injector of claim 13 wherein the retaining mechanism comprises a substantially circular, flexible ring.

16. The injector of claim 13 wherein the retaining mechanism comprises a plurality of segments.

17. The injector of claim 13, further comprising a grooved, rotating ring operatively connected to the retaining mechanism, wherein rotation of the rotating ring manipulates the retaining mechanism from the relaxed state to the tensioned state.